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EXAMINER

DIVECHA, KAMAL B

ART UNIT PAPER NUMBER

2151

DATE MAILED: 10/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/985,709

Applicant(s)

WILSON, RICHARD A.

Examiner

KAMAL B. DIVECHA

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/7/06.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

Claims 1-45 are now pending in this application.

Applicant's arguments and amendments filed on August 07, 2006 have been carefully considered but they are deemed moot in view of the following new grounds of rejection as explained here below, necessitated by Applicant's substantial amendment (i.e., *by including "a function module for controlling a printer and a function module for controlling a scanner", i.e. the claims are now limited to a multifunction network peripheral device such as digital copier, scanner and fax, has changed the scope of dependent claims 2-39, 44, 45 and claims 40-43, and required further search and consideration*) to the claims which significantly affected the scope thereof.

DETAILED ACTION

Claims 1-45 are presented for re-examination.

Claim Rejections - 35 USC § 101

In view of applicant's disclosure, i.e. the computer-readable medium is limited to a disk or a memory device (see specification, page 4), Examiner therefore withdraws the 35 U.S.C. 101 rejection presented in the office action mailed on April 06, 2006.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3, 8, 10-11, 13, 17, 22-32 and 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Touboul (U. S. Patent No. 6,125,390) in view of NIWA et al. (hereinafter NIWA, US 2003/0037098 A1).

As per claim 1, Touboul explicitly discloses a method for managing a multifunction network device on a network, each multifunction network device having a network interface for communication on the network, and each multifunction network device further having a plurality of hardware resources including a storage memory for storing a plurality of function modules, a program memory for use by the function modules and a processor for executing each of the function modules (fig. 1: shows the network with plurality of multifunction devices; fig. 2: shows one embodiment of a multifunction network device; and col. 6 L1-17), said method comprising the steps of:

- detecting a reconfiguration event for one of the plurality of multifunction network devices (col. 2 L40-56, col. 4 L30-56 and col. 7 L40-49);
- sending a reconfiguration command to the one multifunction network device, the reconfiguration command being a deletion command to delete at least one of the function modules (col. 10 L30-40, col. 10 L40-48 and col. 15 L35-39) or a reallocation command to reallocate an amount of at least one of the hardware resources available for use by each of the

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plurality of function modules (col. 5 L11-13, col. 8 L10 to col. 9 L30, col. 9 L40 to col. 10 L1);
and

- receiving confirmation that the one multifunction network device has been reconfigured in accordance with the reconfiguration command, wherein the confirmation message is transmitted over the network by the one multifunction network device via its network interface (col. 18 L12-45 and fig. 9 item #164, fig. 1).

However, Touboul does not disclose the process wherein the multifunction device includes a function module for controlling a printer and a function module for controlling a scanner (i.e. an imaging device, digital copier with scanning/faxing capabilities, etc).

NIWA, from the same field of endeavor explicitly discloses a multifunction network device having plurality of hardware resources including a storage memory for storing a plurality of function modules (i.e. programs), which includes a function module for controlling a printer (i.e. a print software or driver) and a function module for controlling a scanner (i.e. s scanning software, program or driver), a program memory and a processor (fig. 1 item #1, 4, 5, 17, 18, 19, fig. 3 item #4).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Touboul in view of NIWA (the modification will be referred to as Touboul from herein on) in order to manage plurality of multifunction network devices such as digital copiers, imaging devices, etc. (Also note that the modification would have been fully compatible because applicant specification suggests that the applicant's invention can also be used to manage various other types of network devices, not just network printers, see specification, page 35).

One of ordinary skilled in the art would have been motivated because it would have offered increased flexibility in handling of problems that occur at the multifunction network device (such as printers, workstations, etc., Touboul, col. 1 L55-65). It would have further provided a means for identifying an event occurring with respect to a program executing on one of the devices, means for sending an alert to the management console, and means for storing plurality of triggers, wherein the triggers are adapted to cause an action to be taken within the network (Touboul, col. 2 L20-37).

As per claim 2, Touboul discloses the process wherein the reconfiguration event is a request for execution of one of the plurality of function modules by the one multifunction network device (col. 2 L20-45, col. 6 L54-61, col. 8 L43-52).

As per claim 3, Touboul discloses the process wherein the reconfiguration event is a trigger set by a configurator module executing in a computing device on the network (col. 2 L20-65, col. 4 L30-55, col. 5 L1-28, col. 10 L58 to col. 11 L20).

As per claim 8, Touboul discloses the process wherein the trigger is set by the configuration module based on receipt of a request message by the configuration module from the one multifunction network device (col. 8 L44 to col. 9 L67, fig. 1 and col. 7 L40-49).

As per claim 10, Touboul discloses the process wherein the request message is passed in an SNMP message from the one multifunction network device to the configuration module (fig. 1, fig. 12 and col. 10 L19-29).

As per claim 11, Touboul discloses the process of monitoring an overall demand for execution of each of the plurality of functions by the plurality of multifunction network devices, and the trigger is set by the configuration module based on a detected increase in the overall

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demand for execution of one of the plurality of functions (col. 7 L40-50 and col. 8 L10 to col. 9 L67).

As per claim 13, Touboul discloses the process wherein the one multifunction network device is reconfigured in accordance with the reconfiguration command by deleting at least one of the function modules from the storage memory (col. 15 L25-39: please note that the process of updating inherently deletes a file).

As per claim 17, Touboul discloses the process wherein the reconfiguration command is selected from an addition command to add a designated function module to the storage memory and the program memory of the one multifunction network device (col. 8 L27 to col. 9 L67).

As per claim 22, Touboul discloses the process wherein the reconfiguration event is a trigger set by configuration module executing in a server on the network, and the trigger is based on an expiration of a predetermined time duration which was initiated at a last reconfiguration event for the one multifunction device (col. 7 L40 to col. 8 L64 and fig. 1 item #1, col. 8 L10-26).

As per claim 23, Touboul discloses the process wherein the reconfiguration event is a trigger set by a configuration module executing in a server on the network (fig. 1 item #1, fig. 5), and the trigger is based on receipt of a request message by the configuration module from the one multifunction network device (col. 8 L44 to col. 9 L67 and col. 7 L40-49).

As per claim 24, Touboul discloses the process wherein the request message comprises a request by the one multifunction network device for the addition of at least one function module to the storage memory and to the program memory in the one multifunction network device (col.

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7 L40-49 and col. 8 L44 to col. 9 L67: please note the process of installing and downloading is same as the process of adding the function modules).

As per claim 25, Touboul discloses the process wherein the reconfiguration event is a trigger set by configuration module executing in a server on the network (col. 14 L56-60 and fig. 1 item #1, 8), and the trigger is based on discovery by the configuration module of the one multifunction network device (col. 12 L22-35 and fig. 5).

As per claim 27, Touboul discloses the process wherein, in case that the reconfiguration command is an addition command to add a designated function module to the storage memory and the program memory of the one multifunction network device, the designated function module is downloaded to the one multifunction network device (col. 8 L10 to col. 9 L67 and col. 10 L40-49).

As per claim 28, Touboul discloses the process wherein the designated function module is downloaded to the one multifunction network device from a component repository module in response to an instruction from a configuration module (col. 10 L40-49 and col. 15 L9-20).

As per claim 29, Touboul discloses the process wherein the component repository module and the configuration module are executing on a same computing device on the network (fig. 5 item #74, 76, 78 and item #84, fig. 1 #1 and fig. 2, col. 15 L3-20).

As per claim 30, Touboul discloses a system wherein the component repository module and configuration module are executing on separate respective devices on the network (fig. 1 to fig. 3 and fig. 12).

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As per claim 31, Touboul discloses the process wherein the component repository module executes in a server on the network (fig. 5 item #74, 76, 78 and col. 15 L10-20 and fig. 1).

As per claim 32, Touboul discloses the process wherein version identification (an identification) of the designated function module is provided in the instruction from the configuration module to the component repository module (col. 10 L40-49: the process inherently identifies the files or drivers using identifier and downloads and/or copies them).

As per claim 35, Touboul discloses the process wherein the designated function module is downloaded to the one multifunction network device from a component repository module in response to an instruction from the one multifunction network device (col. 10 L40-49, col. 9 L15-67 and col. 7 L40-49).

As per claim 36, Touboul discloses the process wherein a version identification of the designated function module is provided in the instruction from the one multifunction network device to the component repository module (col. 7 L40-49).

As per claim 26, it does not teach or further define over the limitations in claims 1-3, 8, 10-11, 13, 17, 22-25, 27-32 and 35-36. Therefore claim 26 is rejected for the same reasons as set forth in claims 1-3, 8, 10-11, 13, 17, 22-25, 27-32 and 35-36.

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2. Claims 4-7, 9, 12, 15-16, 18-21, 37 and 41-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Touboul (U. S. Patent No. 6,125,390) in view of NIWA et al. (hereinafter NIWA, US 2003/0037098 A1), and further in view of Burgess et al., (hereinafter Burgess, U. S. Patent No. 5,696,701).

As per claim 4, Touboul in view of NIWA's teachings as set forth above still applied, however Touboul in view of NIWA does not disclose the process wherein the trigger is set in response to detection by the configurator module of an increased demand for use of the storage memory and of the program memory in the one multifunction network device.

Burgess, from the same field of endeavor explicitly discloses the method and system for monitoring the performance of computers in computer networks (see summary). Burgess further discloses the process of monitoring the usage and/or demand of the storage memory and the program memory in the monitored computer and sending an alert message in response to the monitored data (col. 7 L4-12, L37-47, L49-67 and col. 8 L56-65).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Touboul in view of Burgess, in order to monitor the usage of the storage and program memory, since Burgess teaches the process of monitoring the status of the components such as operating system, storage memory, program memory etc.

One of ordinary skill in the art would have been motivated because monitoring of this performance information would have allowed a network administrator to take action before the halt of the operating system of the monitored computer, i.e. halt of the computer system (Burgess, col. 8 L3-11).

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As per claim 5, Touboul does not disclose the process wherein the detection by the configuration module of an increased demand for use of the storage memory and of the program memory is based on resource information data which is passed from the one multifunction network device to the configuration module.

Burgess, from the same field of endeavor discloses the process of detecting high usage of the storage memory and program memory based on resource information data passed from a monitored computer (read as multifunction device) to the configurator module (col. 5 L1-51, col. 9 L55-65).

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Burgess as stated above with Touboul in order to detect of an increased demand for use of the memory which is based on resource information data from the monitored computer.

One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 4.

As per claim 6, Touboul does not disclose the process wherein the resource information data includes a current utilized amount of the storage memory and a current utilized amount of the program memory of the one multifunction network device.

Burgess discloses the process wherein the resource information data includes a current utilized amount of the storage memory and a current amount of the program memory of the monitored computer (col. 7 L4-67).

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Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Burgess as stated above with Touboul in order to pass the utilized amount of the memory.

One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 4.

As per claim 7, Touboul discloses the process wherein the resource information data is passed in an SNMP message from the one multifunction network device to the configuration module (fig. 1, fig. 9 item #174 and col. 10 L19-29, col. 2 L30-56).

As per claim 9, Touboul does not disclose the process wherein the request message comprises a request by multifunction network device for an increased useable capacity of the storage memory and of the program memory in the multifunction device.

Burgess discloses the process of sending a message by the monitored computer for an increased useable capacity of the storage device and of the program memory in the monitored computer (col. 6 L40 to col. 7 L67 and col. 8 L56-65).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Burgess as stated above with Touboul in order to send a request message for an increased useable capacity of the storage memory and of the program memory in the computer.

One of ordinary skilled in the art would have been motivated because it would have provided a mechanism for accommodating the operating system demands (Burgess, col. 7 L37-47).

As per claim 12, Touboul does not explicitly disclose the process wherein the configuration module monitors the overall demand for execution of each of the plurality of functions by monitoring a plurality of function request messages which are sent to the plurality of multifunction devices.

Burgess discloses the process of monitoring the percentage of time that a processor is busy executing a request, the rate at which the operating system switches between threads and the number of times that the operating system is not able to assign a work item to service a request (col. 7 L13-65). That Burgess monitors the plurality of requests and generates the alerts based on the monitoring process.

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Touboul in view of Burgess in order to monitor plurality of function request messages.

One of ordinary skilled in the art would have been motivated because of the same reasons as asset forth in claims 4 and 9.

As per claim 15, Touboul does not disclose the process wherein the multifunction network device is reconfigured in accordance by allocating a designated amount of program memory for use by the function modules.

Burgess, from the same field of endeavor, discloses the process of increasing the program memory for use by the program modules (i.e. it increases by reallocating memory from somewhere to the device, col. 7 L37-47).

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Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Burgess as stated above with Touboul, in order to reallocate the program memory for use by the network device.

One of ordinary skilled in the art would have been motivated because of the same reasons as asset forth in claims 4 and 9.

As per claim 16, Touboul does not explicitly disclose the process wherein multifunction network device is reconfigured in accordance with the reconfiguration command by instructing an operating system in the one multifunction network device to respond only to a function request message which requests execution of a designated function module.

Burgess discloses the process of instructing an operating system to provide more work items to service requests when operating system is not able to assign a work item (col. 7 L60 to col. 8 L2).

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Touboul in view of Burgess to instruct operating system to respond only to a designated function request, since Burgess discloses the process of instructing the operating system to perform a task.

One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 4 and 9.

As per claim 44, Touboul does not explicitly disclose the process wherein one multifunction network device is reconfigured in accordance with the reconfiguration command by prohibiting the use of program memory for at least one the function module.

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Burgess discloses the process wherein a monitored computer (a multifunction network device) is instructed to cease executing extraneous processes (read as prohibiting the use of program memory, col. 7 L49-60).

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Burgess as stated above with Touboul in order to prohibit the use of program memory.

One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 4 and 9.

As per claim 45, Touboul does not explicitly disclose the process wherein one multifunction network device is reconfigured in accordance with the reconfiguration command by prohibiting the use of program memory for all of the function modules except a designated function module.

Burgess discloses the process wherein a monitored computer (a multifunction network device) is instructed to cease executing extraneous processes (read as prohibiting the use of program memory, col. 7 L49-60).

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Touboul in view of Burgess in order to prohibit the use of program memory for all of the function modules except a designated function module.

One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 44.

As per claims 18-21, 37 and 41-43, they do not teach or further define over the limitations in claims 4-7, 9, 12, 15-16 and 44-45. Therefore claims 18-21, 37 and 41-43 are rejected for the same reasons as set forth in claims 4-7, 9, 12, 15-16 and 44-45.

3. Claims 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Touboul (U. S. Patent No. 6,125,390) in view of NIWA et al. (hereinafter NIWA, US 2003/0037098 A1), and further in view of Chiles et al (hereinafter Chiles, U. S. Patent No. 6,167,567).

As per claim 33, Touboul's teachings as set forth above still applied. Touboul further discloses a configuration profile that includes attributes such as type of machine, processor type, memory size, etc., associated with a workstation (i.e. preset profile associated with a multifunction device), however Touboul does not disclose the process wherein the version identification is determined in accordance with a preset profile corresponding to the one multifunction device.

Chiles discloses a system for automatically updating software on a computer in a networked client-server environment (see summary) and Chiles further discloses the process of identifying the updates based on the version numbers of the software (col. 2 L42-56, col. 5 L44-50).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Touboul in view of Chiles, in order to include a version numbers of software associated with multifunction device in a configuration file or profile.

One of ordinary skilled in the art would have been motivated because it would have identified the software. It would have also enabled a determination process that would have determined whether the software and/or functional module needs an update or not (Chiles, col. 4 L43-47).

As per claim 34, Touboul discloses the process wherein preset profile corresponding to one network device contains information regarding allowed function modules that can be downloaded to the one multifunction device (col. 15 L3-39), however Touboul does not disclose the process wherein the preset profiles includes a version identification for each of the allowed function modules.

Chiles discloses a system for automatically updating software on a computer in a networked client-server environment (see summary) and Chiles further discloses the process of identifying the updates based on the version numbers of the software (col. 2 L42-56, col. 5 L44-50).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Touboul in view of Chiles, in order to include a version numbers of software associated with multifunction device in a configuration file or profile.

One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 33.

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4. Claims 38-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Touboul (U. S. Patent No. 6,125,390) in view of NIWA et al. (hereinafter NIWA, US 2003/0037098 A1), further in view of Burgess et al., (hereinafter Burgess, U. S. Patent No. 5,696,701), and further in view of Hirai (U. S. Patent No. 6,546,484 B2).

As per claim 38, Touboul in view of Burgess discloses the process wherein the reconfiguration command is sent internally within the one multifunction network device which is reconfigured in accordance with the reconfiguration command (col. 5 L42-53), however Touboul in view of Burgess does not disclose the command of deleting all of the function modules except one designated function module from the storage and program memory.

Hirai discloses the process of program module management. Hirai further teaches the process of deleting all of the program modules (functional modules) except for the designated function module from the program memory of the network device (col. 4 L18-36, L46-65, col. 6 L23-49, col. 7 L20-33, col. 7 L56 to col. 8 L22).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Touboul in view of Burgess, and further in view of Hirai, in order to include a command to delete all of the function modules except for the designated function module from the storage memory and program memory of the multifunction network device, since Hirai teaches the process of deleting all of the program modules except for the program modules stationed permanently.

One of ordinary skilled in the art would have been motivated because it would have improved the performance of the multifunction network device by managing and utilizing the

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capacity of the program modules and the capacity of the program memory more efficiently (Hirai, col. 3 L25-35, col. 2 L21-32).

As per claim 39, neither of the references disclose the process wherein the deleted function modules are sent from the multifunction network device to a component repository on the network, and wherein the deleted function modules are subsequently retrieved by multifunction network device from the component repository and added to the storage memory and to the program memory, But the process of deleting, sending, retrieving and adding function modules are well known and obvious in the relevant art. Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Touboul in view of Burgess and Hirai, in order to retrieve the deleted functional modules from the repository and add to the storage memory and to the program memory. One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 38.

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5. Claims 14 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Touboul (U. S. Patent No. 6,125,390) in view of NIWA et al. (hereinafter NIWA, US 2003/0037098 A1), and further in view of Hirai (U. S. Patent No. 6,546,484 B2).

As per claim 40, Touboul explicitly discloses a method for managing a multifunction network device on a network, each multifunction network device having a network interface for communication on the network, and each multifunction network device further having a plurality of hardware resources including a storage memory for storing a plurality of function modules, a program memory for use by the function modules and a processor for executing each of the function modules (fig. 1: shows the network with plurality of multifunction devices; fig. 2: shows one embodiment of a multifunction network device; and col. 6 L1-17), said method comprising the steps of:

- detecting a first reconfiguration event for one of the plurality of multifunction network devices, the first reconfiguration event being based on an increased need for useable capacity of the storage memory and of the program memory by the function modules (col. 2 L40-56, col. 4 L30-56 and col. 7 L10-49);

- sending a reconfiguration command to the one multifunction network device, the reconfiguration command being a deletion command to delete the function modules (col. 10 L30-40, col. 10 L40-48 and col. 15 L35-39) or a reallocation command to reallocate an amount of at least one of the hardware resources available for use by each of the plurality of function modules (col. 5 L11-13, col. 8 L10 to col. 9 L30, col. 9 L40 to col. 10 L1); and

- receiving confirmation that the one multifunction network device has been reconfigured in accordance with the reconfiguration command, wherein the confirmation message is

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transmitted over the network by the one multifunction network device via its network interface (col. 18 L12-45 and fig. 9 item #164, fig. 1).

- detecting a second reconfiguration event for the one multifunction network device, the second reconfiguration event being based on a decreased need for usable capacity of the storage memory and of the program memory by a designated one of the plurality of function modules, wherein the second reconfiguration event is transmitted over the network by the one multifunction network device via its network interface and is received via the network (col. 2 L40-56, col. 4 L30-56 and col. 7 L10-49);

- sending via the network a second reconfiguration command, in response to the detected second reconfiguration event, to the one multifunction network device, the second reconfiguration command comprised of a command to download, installing and copying drivers and configuration files to the storage memory and program memory in response to the reconfiguration command (col. 9 L15 to col. 10 L1 and col. 10 L40-49);

- receiving confirmation over the network that the one multifunction network device has been reconfigured in accordance with the reconfiguration command, wherein the confirmation message is transmitted over the network by the one multifunction network device via its network interface (col. 18 L12-45 and fig. 9 item #164, fig. 1).

However, Touboul does not disclose the process wherein the multifunction device includes a function module for controlling a printer and a function module for controlling a scanner (i.e. an imaging device, digital copier with scanning/faxing capabilities, etc).

NIWA, from the same field of endeavor explicitly discloses a multifunction network device having plurality of hardware resources including a storage memory for storing a plurality

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of function modules (i.e. programs), which includes a function module for controlling a printer (i.e. a print software or driver) and a function module for controlling a scanner (i.e. s scanning software, program or driver), a program memory and a processor (fig. 1 item #1, 4, 5, 17, 18, 19, fig. 3 item #4) and further teaches the process of monitoring the usage of memory ([0170]).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Touboul in view of NIWA (the modification will be referred to as Touboul from herein on) in order to manage plurality of multifunction network devices such as digital copiers, imaging devices, etc. (Also note that the modification would have been fully compatible because applicant specification suggests that the applicant's invention can also be used to manage various other types of network devices, not just network printers, see specification, page 35).

One of ordinary skilled in the art would have been motivated because it would have offered increased flexibility in handling of problems that occur at the multifunction network device (such as printers, workstations, etc., Touboul, col. 1 L55-65). It would have further provided a means for identifying an event occurring with respect to a program executing on one of the devices, means for sending an alert to the management console, and means for storing plurality of triggers, wherein the triggers are adapted to cause an action to be taken within the network (Touboul, col. 2 L20-37).

However, Touboul in view of NIWA does not disclose the process wherein the reconfiguration command or trigger is to delete all of the function modules except for the designated function module from the storage memory and from the program memory of the one multifunction network device.

Hirai discloses the process of program module management. Hirai further teaches the process of deleting all of the program modules (functional modules) except for the designated function module from the program memory of the network device (col. 4 L18-36, L46-65, col. 6 L23-49, col. 7 L20-33, col. 7 L56 to col. 8 L22: technically Hirai solves the problem of memory constraints facing the network devices by utilizing the memory capacities, program modules, etc.).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Touboul in view of NIWA, and further in view of Hirai, in order to include a command to delete all of the function modules except for the designated function module from the storage memory and program memory of the multifunction network device, since Hirai teaches the process of deleting all of the program modules except for the program modules stationed permanently.

One of ordinary skilled in the art would have been motivated because it would have improved the performance of the multifunction network device by managing and utilizing the capacity of the program modules and the capacity of the program memory more efficiently (Hirai, col. 3 L25-35, col. 2 L21-32).

As per claim 14, it does not teach or further define over the limitations in claim 40. Therefore claim 14 is rejected for the same reasons as set forth in claim 40.

Additional References

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Sato, US 2003/0033395 A1: Peripheral Device with a centralized management server and system.
- b. Schacht et al., US 2003/0051011 A1: System and Method for installing printer driver software.

Conclusion

To conclude, Touboul discloses the process and apparatus for monitoring and managing the network devices and/or resource utilization, however Touboul's system is limited to management of the multifunction network devices such as workstations.

Burgess explicitly discloses monitoring the memory usage of a network device. Burgess teaches monitoring increase and decrease demand of a memory in a network device.

Technically, the combination of Touboul and Burgess discloses the invention claimed in the instant application, however the combination is limited to managing the network devices such as workstations.

But, applying the modification of the combination of Touboul and Burgess to a plurality of multifunction network devices, specifically plurality of network digital printers, in order to manage the plurality of digital printers and/or imaging devices in a network, is simply considered obvious because imaging devices are well known in the art, as evident by NIWA and Sato.

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Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAMAL B. DIVECHA whose telephone number is 571-272-5863. The examiner can normally be reached on Increased Flex Work Schedule.

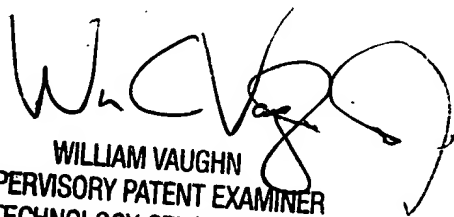
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on 571-272-3939. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kamal Divecha
Art Unit 2151
October 2, 2006.



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